



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

Mycological Bulletin

No. 52

W. A. Kellerman, Ph. D., Ohio State University
Columbus, Ohio, February 15, 1906.

OUR ILLUSTRATIONS.—The *Boletus Americanus* shown on this page needs little or no comment, but the outline illustrations on later pages require further explanation. That on the third page is an *Aecidium* much like the species shown on page 199; the figure on the last page shows a *Smut*; the *Aecidium* will be briefly explained below, and the *Smut* will be commented on in the next Number.



FIG. 162.—BO-LE-TUS A-MER-I-CA-NUS.—A yellow-cap slimy Boletus occurring in woods and open places. The specimens from which the photograph was made were sent by Supt. M. E. Hard, Chillicothe, Ohio, Oct. 30, 1905.

AE-CID'-I-UM, OR CLUSTER-CUPS.—As already explained this represents a stage, usually marked as "I," of a Black Rust. The second or so-called Red-rust is indicated by "II" and the third stage or Black-rust is numbered "III." The remarkable thing about an Aecidium is that its spores do not grow on the host on which they are produced but often on germinating enter a grass or sedge or some other host and there the stages "II" and "III" unfold. This was not at first known, but each Aecidium was supposed to be a complete plant and of course each received a scientific name. It was a German botanist, DeBary, who nearly a half century ago proved by culture in his laboratory that the aecidium on Barberry was the first stage of one of the Red and Black Rusts that grow on wheat. Later experiments have shown the connection of many of our common Yellow Cluster-Cups with Red and Black Rusts on various hosts—yet the life cycle of very many of our common species remain to be worked out.

"QUOTATION PAGE."

(Continued from page 202)

it could be predicted with certainty that the resulting fungus would be small. Very immature eggs ($\frac{1}{2}$ to $\frac{3}{4}$ size) were often separated from their mycelial connections and taken into the greenhouse. These often decayed. A good share of them, however, developed after several days producing very small specimens. This indicates that food and moisture, together with the habit of growing singly or in clusters are important factors in determining size.

The volvae varied in size from 5.5 x 6 cm. to 2.4 x 3 cm. Where the eggs were in large groups they were often flattened against each other. A peculiar lobing was often caused in this way and also by foreign objects lying in contact with the eggs. Eggs lying free in sod were spherical and smooth. The color of the eggs varied from white to pink or dirty brown.

The size and shape of the pileus was as variable as the other characteristics. the taller plants in general had the larger pilei. The shape varied from a broadly campanulate pileus, 2.7 cm. high by 3.7 wide at the lower margin in No. 16, to the tall conical pileus 4.2 cm. high by 2.6 in diameter at the base as in No 11. There is no correlation between the shape of the pileus and the size and structure of the other parts. Some very tall specimens had campanulate pilei while others had the conical form, the same was true of the small specimens. The outer surface was always conspicuously reticulated, the edge of the ridges being acute and toothed. The ridges always extended to the pore at the apex. The pits enclosed by the ridges were in general deeper midway between the apex and the margin of the pileus and often became elongated in the vertical direction near the margin. * * *

There is no other part of the whole plant that shows as great variation in both size and structure as does the veil. The veil of a given specimen may vary with the age of the specimen when collected, or with the surrounding conditions. It was often observed that the veil expanded after the stipe had fully elongated. In other specimens the expansion of the veil was more rapid than the elongation of the stipe. In such cases the veil protruded from between the pileus and the volva as a large fold, which later straightens out and hangs free when the stipe is fully extended. When a specimen had been exposed to a dry atmosphere for a short time the veil became much shrunken. The measurements given in the table were taken from specimens gathered at about ten o'clock in the forenoon. Care was taken to measure the length of the veil when it was most fully expanded. While the outside conditions in which the plant is found, may modify the dimensions of the veil, there is no doubt that the actual amount of material which enters into it is as variable as any other feature of the plant.. [A. H. Christman, Journal of Mycology].

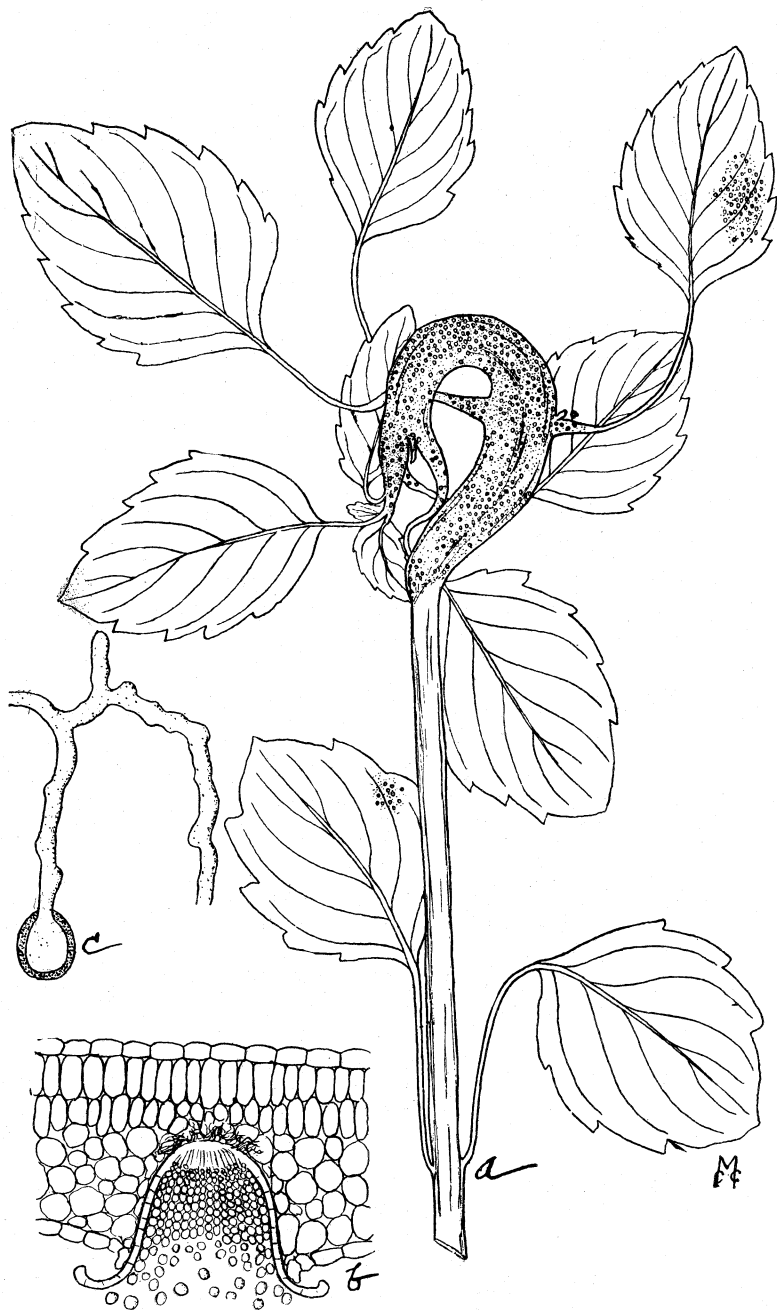


FIG. 163.—Æ-CID'-I-UM IM-PA-TI-EN'-TIS.—The Yellow Cluster-cups of *Impatiens*, the Wild Touch-me-not, or Jewel-weed. At *b* is shown a ripe "cup," and at *c* one of its germinating spores.



FIG. 164.—*U-RO-CYS'-TIS CAR-CI-NO'-DES*.—The Smut found on *Cimicifuga*, the Black Snake-root or Bugbane.

The Mycological Bulletin is issued on the 1st and 15th of each Month, Price 25c. Copies of Vol. II (1904) and Vol. III (1905) may be had for 50 cents each, or cloth bound copies for 75 cents. No copies remain of Vol. I (1903), Address, W. A. Kellerman Columbus Ohio.